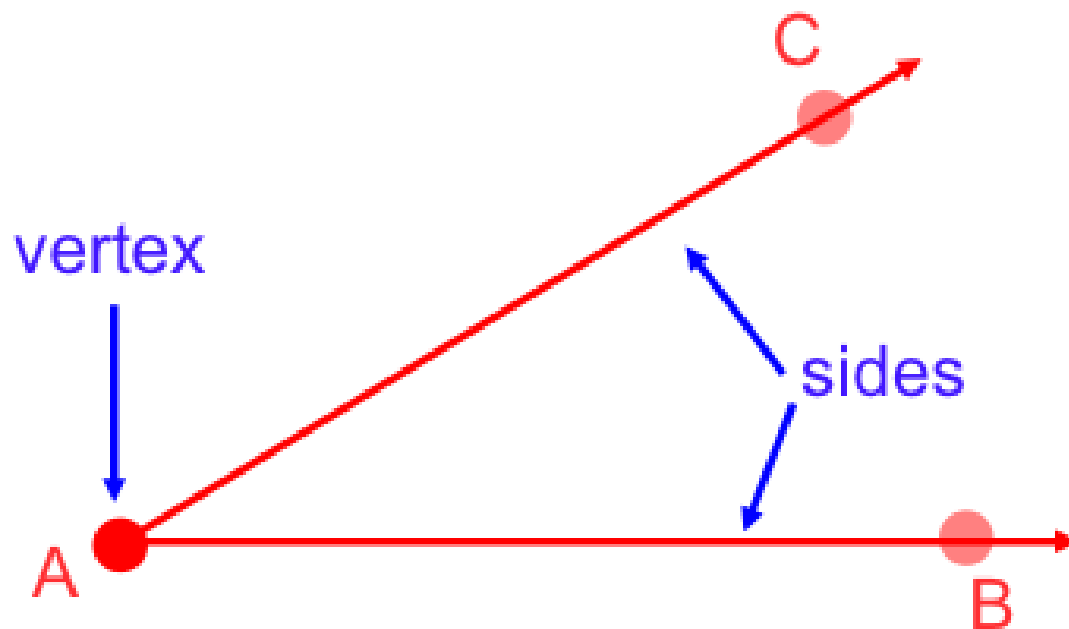


1.4 - Measure and Classify Angles

Angle: consists of two different rays with the same endpoint

Sides: the rays of the angles

Vertex: the endpoint of the angle



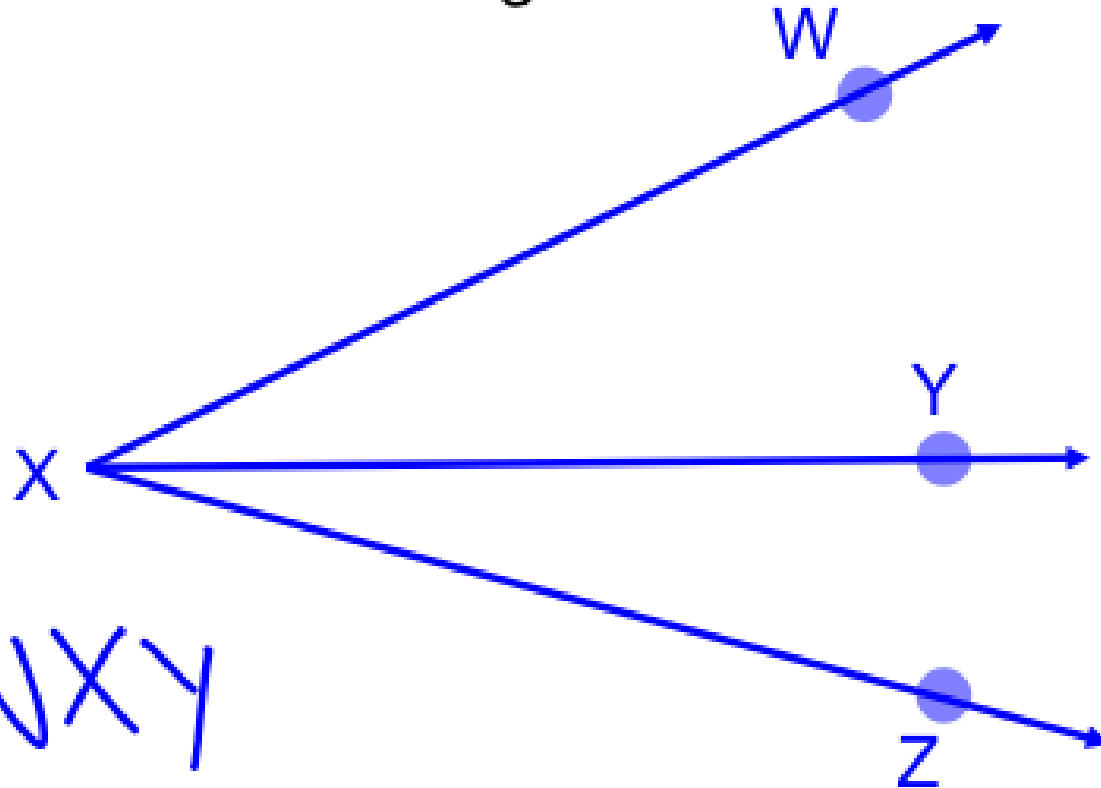
Note - The following angle can be named:

$\angle BAC$

$\angle CAB$

$\angle A$

Ex 1: Name the three angles



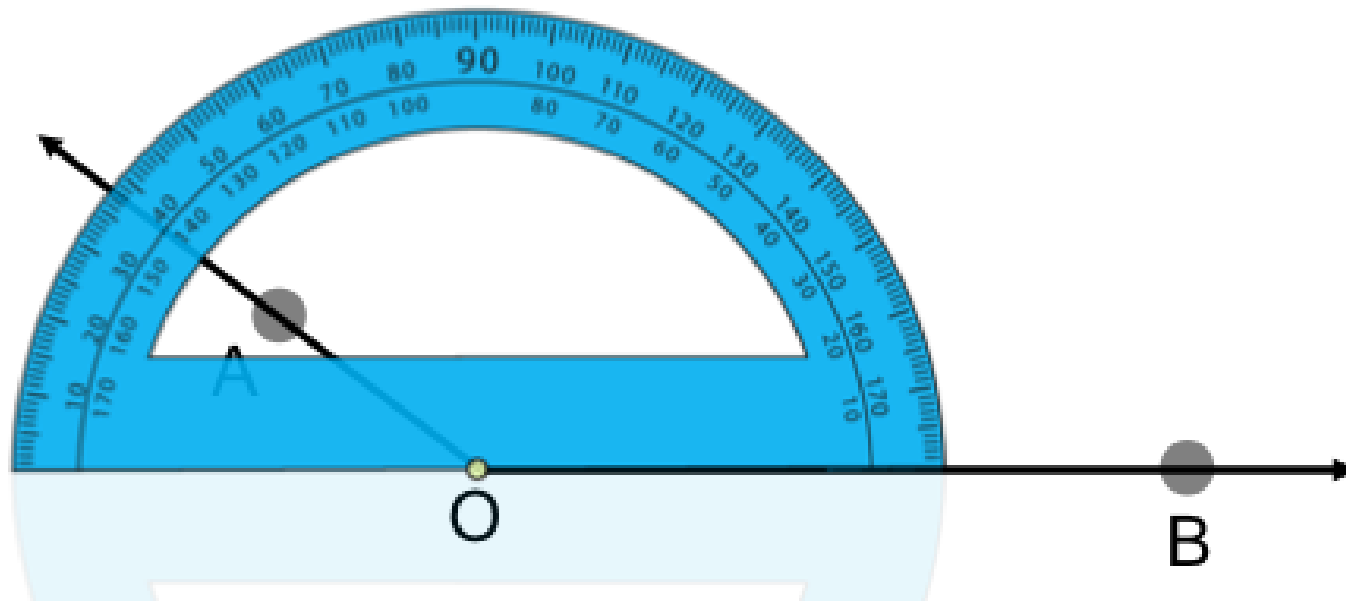
$\angle WXY$

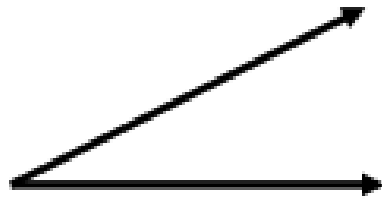
$\angle WXZ$

$\angle YXZ$

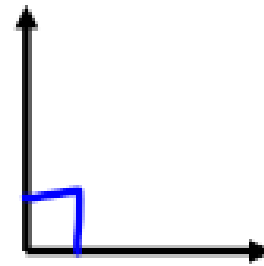
Postulate 3: Protractor Postulate

- Consider \overleftrightarrow{OB} and a point A on one side of \overleftrightarrow{OB} . The rays of the form \overrightarrow{OA} can be matched one to one with the real numbers from 0 to 180.
— ANGLE MEASURES RANGE from 0° – 180°
- The measure of $\angle AOB$ is equal to the absolute value of the difference between the real numbers for \overrightarrow{OA} and \overleftrightarrow{OB} .





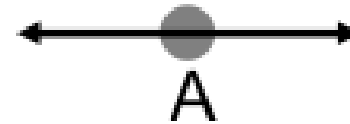
Acute Angle
 $0^\circ < m\angle A < 90^\circ$



Right Angle
 $m\angle A = 90^\circ$

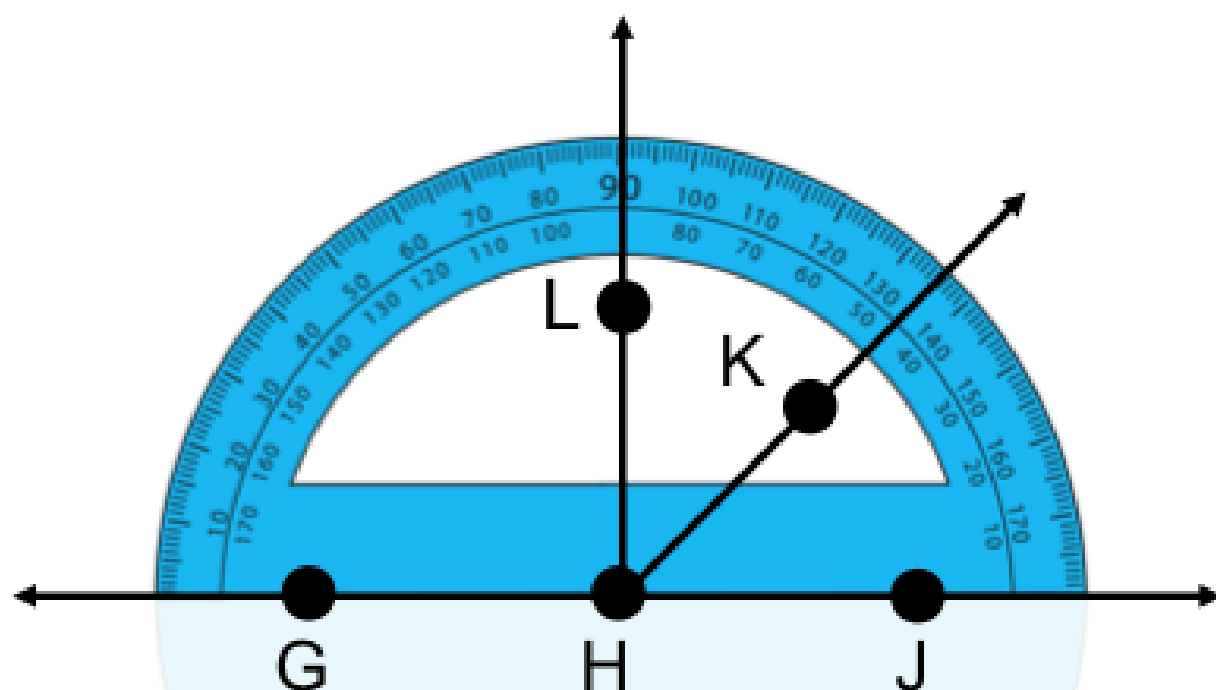


Obtuse Angle
 $90^\circ < m\angle A < 180^\circ$



Straight Angle
 $m\angle A = 180^\circ$

Ex 2: Find the measure of the indicated angle and classify the angle



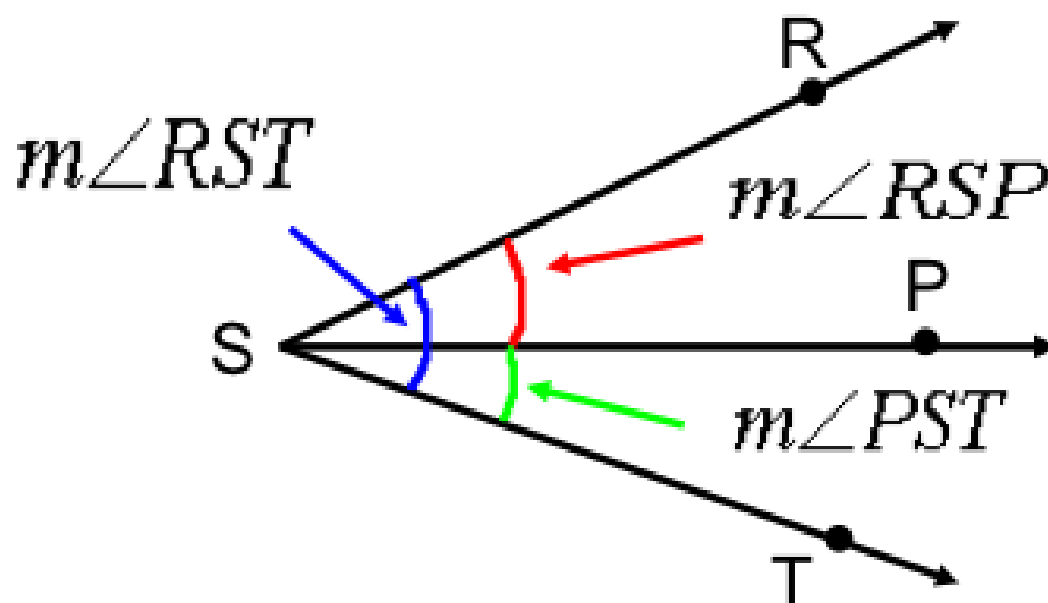
$\angle KHJ = 45^\circ$ acute
 $\angle GHJ = \text{straight } 180^\circ$
 $\angle GHK = 135^\circ$ obtuse
 $\angle GHL = \text{right } 90^\circ$

Postulate 4: Angle Addition Postulate

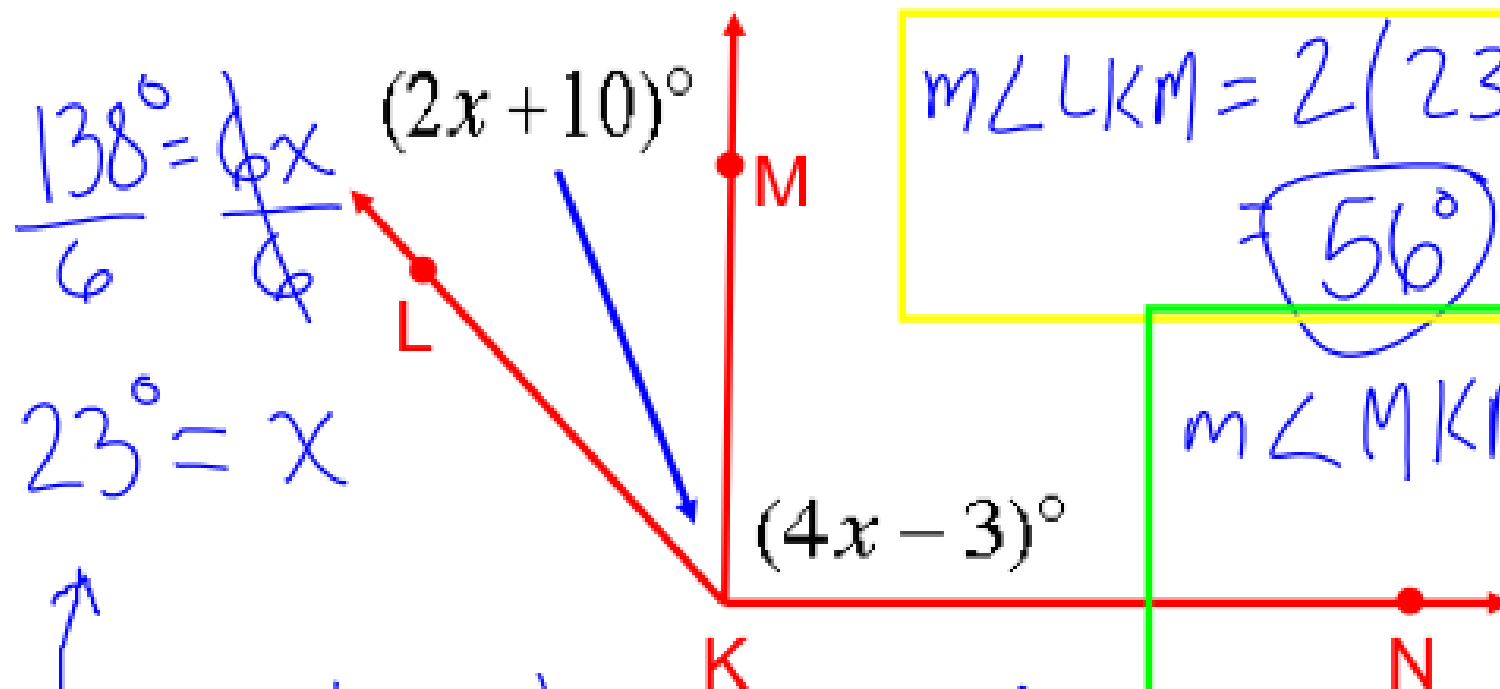
-If P is in the interior of $\angle RST$, then the measure of $\angle RST$ is equal to the sum of the measures of $\angle RSP$ and $\angle PST$.

① If P is in the interior of $\angle RST$, then

$$m\angle RST = m\angle RSP + m\angle PST$$



Ex 3: Given that $m\angle LKN = 145^\circ$, find $m\angle LKM$ and $m\angle MKN$



$$m\angle LKM = 2(23) + 10$$

$$= 56^\circ$$

$$m\angle MKN = 4(23) - 3$$

$$= 89^\circ$$

$$m\angle LKN = m\angle LKM + m\angle MKN$$

$$145^\circ = 2x + 10 + 4x - 3$$

$$145^\circ \neq 6x + 7$$

$$138 \neq 6x$$

Congruent Angles: angles that have the same measure

Angle Bisector: a ray that divides an angle into two angles that are congruent

Homework: p.28-31 #1, 4-26 even, 30,
34-38 even